**KONKAN GYANPETH COLLEGE OF ENGINEERING**

**DEPARTMENT OF COMPUTER ENGG.**

**Theory Lesson Planning**

**Date: 11/07/16**

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| **Subject Code** | **Subject Name** | **Credits** |
| **CSC701** | **Digital Signal Processing** | **05** |

**Academic Year:2016-2017 Class: B.E(VII Sem)**

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| **Lecture No.** | **Chapter Name** | **Planned date** | **Actual date of conduct** | **Actual Topic Covered** | **Teaching Aids Used** |
| **1** | Chapter 1- Discrete Time Signal Introduction to Digital Signal Processing, Classification of Signals | 11/07/16 |  |  |  |
| **2** | Discrete Time Signals | 12/07/16 |  |  |  |
| **3** | Sampling and Reconstruction | 13/07/16 |  |  |  |
| **4** | Standard DT Signals | 14/07/16 |  |  |  |
| **5** | Concept of DigitalFrequency | 18/07/16 |  |  |  |
| **6** | Representation of DT signal using Standard DT Signals | 19/07/16 |  |  |  |
| **7** | Signal Manipulations(shifting, addition, subtraction, multiplication), | 20/07/16 |  |  |  |
| **8** | Linear Convolution formulation(without mathematical proof) | 21/07/16 |  |  |  |
| **9** | Circular Convolution formulation(without mathematical proof) | 25/07/16 |  |  |  |
| **10** | Matrix Representation of Circular Convolution, | 26/07/16 |  |  |  |
| **11** | Linear by Circular Convolution | 27/07/16 |  |  |  |
| **12** | Auto and Cross Correlation formula evaluation | 28/07/16 |  |  |  |
| **13** | Chapter 2- Discrete Time System Introduction to Discrete Time System,., | 01/08/16 |  |  |  |
| **14** | Classification of DT Systems(Linear/Non Linear, Causal/Non Causal, Time Invariant/Time VariantSystems, Stable/ Unstable) | 02/08/16 |  |  |  |
| **15** | BIBO Time Domain Stability Criteria | 03/08/16 |  |  |  |
| **16** | LTIsystem, Concept of Impulse Response and Step Response. | 04/08/16 |  |  |  |
| **17** | Concept of IIR System and FIR System | 08/08/16 |  |  |  |
| **18** | Output of IIR and FIR | 09/08/16 |  |  |  |
| **19** | DT system using Time Domain Linear Convolution formula Method. | 10/08/16 |  |  |  |
| **20** | Chapter 3- Discrete Fourier Transform  Introduction to DTFT | 11/08/16 |  |  |  |
| **21** | DFT, Relation between DFT and DTFT | 16/08/16 |  |  |  |
| **22** | DFT without mathematical proof (Scaling and Linearity, Periodicity,Time Shift and Frequency Shift, Time Reversal, Convolution Propertyand Parsevals’ Energy Theorem). | 18/08/16 |  |  |  |
| **23** | Propertiesof DFT computation using DFT properties | 22/08/16 |  |  |  |
| **24** | Transfer function of DT System in frequency domain using DFT | 23/08/16 |  |  |  |
| **25** | Linearand Circular Convolution using DFT | 24/08/16 |  |  |  |
| **26** | Response of FIR system calculationin | 25/08/16 |  |  |  |
| **27** | Frequency domain using DFT | 29/08/16 |  |  |  |
| **28** | Chapter 4 - Fast Fourier Transform Radix-2 DIT-FFT algorithm | 30/08/16 |  |  |  |
| **29** | DIT-FFT Flowgraph for N=4, 6 & 8 | 31/08/16 |  |  |  |
| **30** | Inverse FFT algorithm. | 01/09/16 |  |  |  |
| **31** | Spectral Analysis using FFT | 13/09/16 |  |  |  |
| **32** | Comparison of complex and real, multiplication and additions of DFT and FFT | 14/09/16 |  |  |  |
| **33** | Chapter 5- DSP Algorithms  Carls’ Algorithm | 15/09/16 |  |  |  |
| **34** | Fast Circular Convolution Algorithm | 19/09/16 |  |  |  |
| **35** | Correlation Coefficient Algorithm | 20/09/16 |  |  |  |
| **36** | Fast Linear Convolution Algorithm | 21/09/16 |  |  |  |
| **37** | Linear FIR filtering  using Fast Overlap Add Algorithm | 22/09/16 |  |  |  |
| **38** | Linear FIR filtering  using Fast Overlap Save Algorithm | 26/09/16 |  |  |  |
| **39** | Linear FIR filtering  using Fast Overlap Add Algorithm | 27/09/16 |  |  |  |
| **40** | Linear FIR filtering  using Fast Overlap Save Algorithm | 28/09/16 |  |  |  |
| **41** | Chapter 6- DSP Processors and Application of DSP | 29/09/16 |  |  |  |
| **42** | DSP processor & microprocessor | 03/10/16 |  |  |  |
| **43** | Need for Special architecture of DSP processor | 04/10/16 |  |  |  |
| **44** | Need for Special architecture of DSP processor | 05/10/16 |  |  |  |
| **45** | A general DSP processor TMS320C54XX  series | 06/10/16 |  |  |  |
| **46** | Case study of Real Time DSP application  Processing | 10/10/16 |  |  |  |
| **47** | Biomedical Signal Processing. | 13/10/16 |  |  |  |

Subject In-charge

Prof. N.N.Jagtap